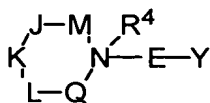


CLAIMS

What is claimed is:

- 5           1. A compound of formula I:



(I)

10           or stereoisomers or pharmaceutically acceptable salts thereof, wherein:

M is absent or selected from  $\text{CH}_2$ ,  $\text{CHR}^5$ ,  $\text{CHR}^{13}$ ,  $\text{CR}^{13}\text{R}^{13}$ , and  $\text{CR}^5\text{R}^{13}$ ;

15           Q is selected from  $\text{CH}_2$ ,  $\text{CHR}^5$ ,  $\text{CHR}^{13}$ ,  $\text{CR}^{13}\text{R}^{13}$ , and  $\text{CR}^5\text{R}^{13}$ ;

J, K, and L are independently selected from  $\text{CH}_2$ ,  $\text{CHR}^5$ ,  $\text{CHR}^6$ ,  $\text{CR}^6\text{R}^6$  and  $\text{CR}^5\text{R}^6$ ;

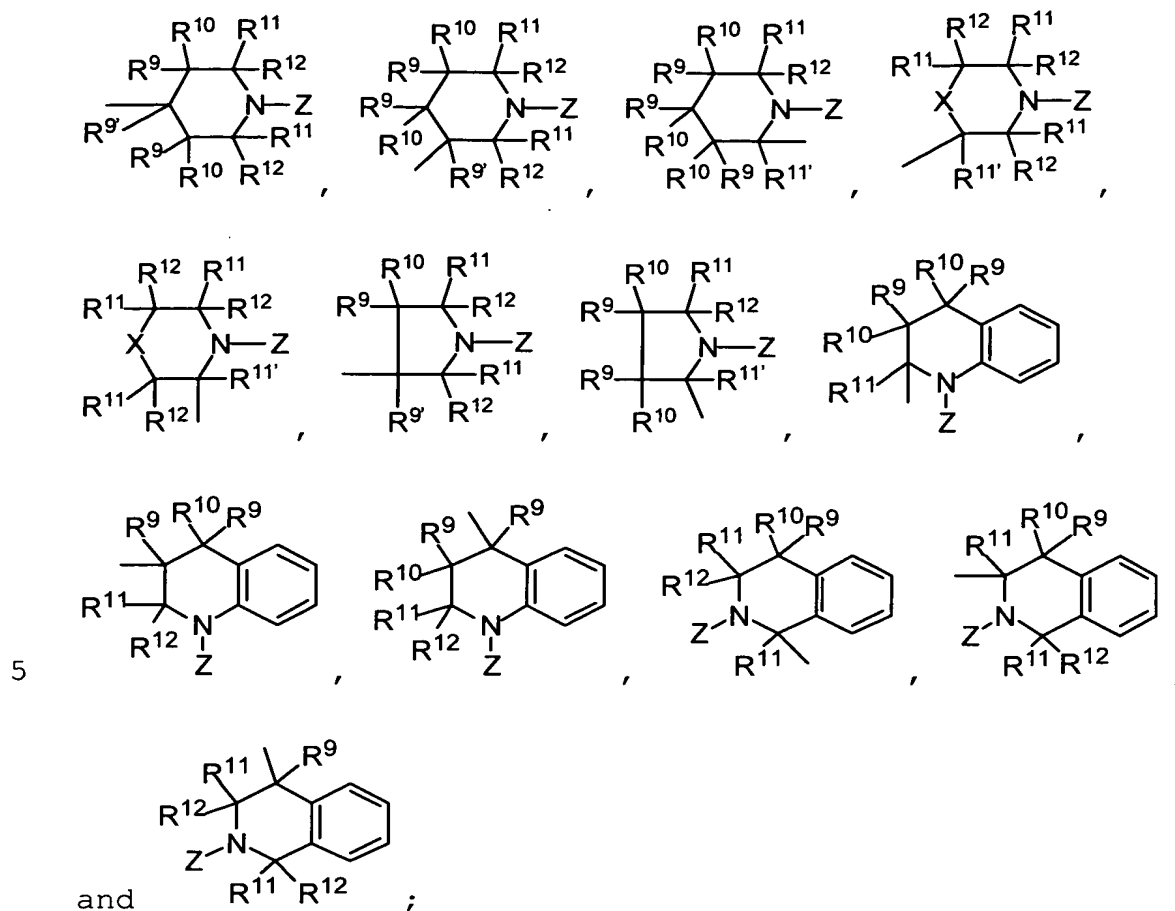
20           with the provisos:

1) at least one of M, J, K, L, or Q contains an  $\text{R}^5$ ;  
and

25           2) when M is absent, J is selected from  $\text{CH}_2$ ,  $\text{CHR}^5$ ,  $\text{CHR}^{13}$ , and  $\text{CR}^5\text{R}^{13}$ ;

30           E is  $-(\text{CR}^7\text{R}^8)-(\text{CR}^9\text{R}^{10})_v-$ ;

Y is selected from:



X is selected from  $\text{NR}^{14}$ , O, and S;

Z is selected from  $\text{C}(\text{O})\text{R}^3$ ,  $\text{S}(\text{O})_2\text{R}^3$ ,  $\text{C}(\text{O})\text{OR}^3$ ,  $\text{C}(\text{O})\text{NR}^2\text{R}^3$ ,  
 $\text{C}(=\text{NR}^1)\text{NR}^2\text{R}^3$ ,  $\text{C}(=\text{CHCN})\text{NR}^2\text{R}^3$ ,  $\text{C}(=\text{CHNO}_2)\text{NR}^2\text{R}^3$ ,  
 $\text{C}(=\text{C}(\text{CN})_2)\text{NR}^2\text{R}^3$ , and  $(\text{CR}'\text{R}')_t$ -phenyl substituted with  
 0-5  $\text{R}^{15}$ ;

$\text{R}'$ , at each occurrence, is selected from H,  $\text{C}_{1-6}$  alkyl,  
 $\text{C}_{2-8}$  alkenyl,  $\text{C}_{2-8}$  alkynyl,  $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl, and  
 $(\text{CH}_2)_r$ phenyl substituted with  $\text{R}^{15e}$ ;

$\text{R}^1$  is selected from H,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{3-6}$  cycloalkyl, OH,  
 CN, and  
 $(\text{CH}_2)_w$ phenyl;

- $R^2$  is selected from H,  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, and a  $(CH_2)_rC_{3-10}$  carbocyclic residue substituted with 0-5  $R^{2a}$ ;
- 5  $R^{2a}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, Cl, Br, I, F,  $(CF_2)_rCF_3$ ,  $NO_2$ , CN,  $(CH_2)_rNR^{2b}R^{2b}$ ,  $(CH_2)_rOH$ ,  $(CH_2)_rOR^{2c}$ ,  $(CH_2)_rSH$ ,  $(CH_2)_rSR^{2c}$ ,  $(CH_2)_rC(O)R^{2b}$ ,  $(CH_2)_rC(O)NR^{2b}R^{2b}$ ,  $(CH_2)_rNR^{2b}C(O)R^{2b}$ ,  $(CH_2)_rC(O)OR^{2b}$ ,  
 10  $(CH_2)_rOC(O)R^{2c}$ ,  $(CH_2)_rCH(=NR^{2b})NR^{2b}R^{2b}$ ,  $(CH_2)_rNHC(=NR^{2b})NR^{2b}R^{2b}$ ,  $(CH_2)_rS(O)_pR^{2c}$ ,  $(CH_2)_rS(O)_2NR^{2b}R^{2b}$ ,  $(CH_2)_rNR^{2b}S(O)_2R^{2c}$ , and  $(CH_2)_rphenyl$ ;
- 15  $R^{2b}$ , at each occurrence, is selected from H,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl;
- $R^{2c}$ , at each occurrence, is selected from  $C_{1-5}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl;
- 20  $R^3$  is selected from a  $CR^{3'}R^{3''}R^{3''}$ ,  $(CR^{3'}R^{3''})_rC_{3-10}$  carbocyclic residue substituted with 0-5  $R^{15}$  and a  $(CR^{3'}R^{3''})_{r-5-10}$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and  
 25 S, substituted with 0-3  $R^{15}$ ;
- $R^{3'}$  and  $R^{3''}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, and phenyl;
- 30  $R^4$  is absent, taken with the nitrogen to which it is attached to form an N-oxide, or selected from  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_qC(O)R^{4b}$ ,  $(CH_2)_qC(O)NR^{4a}R^{4a'}$ ,  $(CH_2)_qC(O)OR^{4b}$ , and a  $(CH_2)_rC_{3-10}$  carbocyclic residue  
 35 substituted with 0-3  $R^{4c}$ ;

- $R^{4a}$  and  $R^{4a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, and phenyl;
- 5  $R^{4b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $C_{2-8}$  alkynyl, and phenyl;
- 10  $R^{4c}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl,  $(CH_2)_rOH$ ,  $(CH_2)_rSC_{1-5}$  alkyl,  $(CH_2)_rNR^{4a}R^{4a'}$ , and  $(CH_2)_rphenyl$ ;
- 15  $R^5$  is selected from a  $(CR^{5'}R^{5''})_t-C_{3-10}$  carbocyclic residue substituted with 0-5  $R^{16}$  and a  $(CR^{5'}R^{5''})_t-5-10$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{16}$ ;
- 20  $R^{5'}$  and  $R^{5''}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, and phenyl;
- 25  $R^6$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CF_2)_rCF_3$ , CN,  $(CH_2)_rNR^{6a}R^{6a'}$ ,  $(CH_2)_rOH$ ,  $(CH_2)_rOR^{6b}$ ,  $(CH_2)_rSH$ ,  $(CH_2)_rSR^{6b}$ ,  $(CH_2)_rC(O)OH$ ,  $(CH_2)_rC(O)R^{6b}$ ,  $(CH_2)_rC(O)NR^{6a}R^{6a'}$ ,  $(CH_2)_rNR^{6d}C(O)R^{6a}$ ,  $(CH_2)_rC(O)OR^{6b}$ ,  $(CH_2)_rOC(O)R^{6b}$ ,  $(CH_2)_rS(O)_pR^{6b}$ ,  $(CH_2)_rS(O)_2NR^{6a}R^{6a'}$ ,  $(CH_2)_rNR^{6d}S(O)_2R^{6b}$ , and  $(CH_2)_tphenyl$  substituted with 0-3  $R^{6c}$ ;
- 30  $R^{6a}$  and  $R^{6a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{6c}$ ;
- 35  $R^{6b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{6c}$ ;

$R^{6c}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl,  $(CH_2)_rOH$ ,  $(CH_2)_rSC_{1-5}$  alkyl, and  $(CH_2)_rNR^{6d}R^{6d}$ ;

5

$R^{6d}$ , at each occurrence, is selected from H,  $C_{1-6}$  alkyl, and  $C_{3-6}$  cycloalkyl;

10  $R^7$  is selected from H,  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_qOH$ ,  $(CH_2)_qSH$ ,  $(CH_2)_qOR^{7d}$ ,  $(CH_2)_qSR^{7d}$ ,  $(CH_2)_qNR^{7a}R^{7a'}$ ,  $(CH_2)_rC(O)OH$ ,  $(CH_2)_rC(O)R^{7b}$ ,  $(CH_2)_rC(O)NR^{7a}R^{7a'}$ ,  $(CH_2)_qNR^{7a}C(O)R^{7a}$ ,  $(CH_2)_rC(O)OR^{7b}$ ,  $(CH_2)_qOC(O)R^{7b}$ ,  $(CH_2)_qS(O)_pR^{7b}$ ,  $(CH_2)_qS(O)_2NR^{7a}R^{7a'}$ ,  
 15  $(CH_2)_qNR^{7a}S(O)_2R^{7b}$ ,  $C_{1-6}$  haloalkyl, a  $(CH_2)_r-C_{3-10}$  carbocyclic residue substituted with 0-3  $R^{7c}$ , and a  $(CH_2)_r-5-10$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-2  $R^{7c}$ ;

20

$R^{7a}$  and  $R^{7a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, a  $(CH_2)_r-C_{3-10}$  carbocyclic residue substituted with 0-5  $R^{7e}$ , and a  $(CH_2)_r-5-10$  membered  
 25 heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{7e}$ ;

30

$R^{7b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl, a  $(CH_2)_r-C_{3-6}$  carbocyclic residue substituted with 0-2  $R^{7e}$ , and a  $(CH_2)_r-5-6$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{7e}$ ;

35

$R^{7c}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, Cl, Br, I, F,  $(CF_2)_rCF_3$ ,  $NO_2$ , CN,  $(CH_2)_rNR^{7f}R^{7f}$ ,  $(CH_2)_rOH$ ,

$(\text{CH}_2)_r\text{OC}_{1-4}$  alkyl,  $(\text{CH}_2)_r\text{SC}_{1-4}$  alkyl,  $(\text{CH}_2)_r\text{C}(\text{O})\text{OH}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{R}^{7b}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{NR}^{7f}\text{R}^{7f}$ ,  $(\text{CH}_2)_r\text{NR}^{7f}\text{C}(\text{O})\text{R}^{7a}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{OC}_{1-4}$  alkyl,  $(\text{CH}_2)_r\text{OC}(\text{O})\text{R}^{7b}$ ,  
 $(\text{CH}_2)_r\text{C}(=\text{NR}^{7f})\text{NR}^{7f}\text{R}^{7f}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_p\text{R}^{7b}$ ,  
5  $(\text{CH}_2)_r\text{NHC}(=\text{NR}^{7f})\text{NR}^{7f}\text{R}^{7f}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_2\text{NR}^{7f}\text{R}^{7f}$ ,  
 $(\text{CH}_2)_r\text{NR}^{7f}\text{S}(\text{O})_2\text{R}^{7b}$ , and  $(\text{CH}_2)_r\text{phenyl}$  substituted with  
0-3  $\text{R}^{7e}$ ;

10  $\text{R}^{7d}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl  
substituted with 0-3  $\text{R}^{7e}$ , alkenyl, alkynyl, and a  
 $\text{C}_{3-10}$  carbocyclic residue substituted with 0-3  $\text{R}^{7c}$ ;

15  $\text{R}^{7e}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  $\text{C}_{2-8}$   
alkenyl,  $\text{C}_{2-8}$  alkynyl,  $\text{C}_{3-6}$  cycloalkyl, Cl, F, Br, I,  
CN,  $\text{NO}_2$ ,  $(\text{CF}_2)_r\text{CF}_3$ ,  $(\text{CH}_2)_r\text{OC}_{1-5}$  alkyl, OH, SH,  
 $(\text{CH}_2)_r\text{SC}_{1-5}$  alkyl,  $(\text{CH}_2)_r\text{NR}^{7f}\text{R}^{7f}$ , and  $(\text{CH}_2)_r\text{phenyl}$ ;

20  $\text{R}^{7f}$ , at each occurrence, is selected from H,  $\text{C}_{1-5}$  alkyl,  
and  $\text{C}_{3-6}$  cycloalkyl;

$\text{R}^8$  is selected from H,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{3-6}$  cycloalkyl, and  
 $(\text{CH}_2)_t\text{phenyl}$  substituted with 0-3  $\text{R}^{8a}$ ;

25  $\text{R}^{8a}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  $\text{C}_{2-8}$   
alkenyl,  $\text{C}_{2-8}$  alkynyl,  $\text{C}_{3-6}$  cycloalkyl, Cl, F, Br, I,  
CN,  $\text{NO}_2$ ,  $(\text{CF}_2)_r\text{CF}_3$ ,  $(\text{CH}_2)_r\text{OC}_{1-5}$  alkyl, OH, SH,  
 $(\text{CH}_2)_r\text{SC}_{1-5}$  alkyl,  $(\text{CH}_2)_r\text{NR}^{7f}\text{R}^{7f}$ , and  $(\text{CH}_2)_r\text{phenyl}$ ;

30 alternatively,  $\text{R}^7$  and  $\text{R}^8$  join to form  $\text{C}_{3-7}$  cycloalkyl, or  
 $=\text{NR}^{8b}$ ;

$\text{R}^{8b}$  is selected from H,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{3-6}$  cycloalkyl, OH,  
CN, and  
 $(\text{CH}_2)_r\text{-phenyl}$ ;

35  $\text{R}^9$  is independently selected from H,  $\text{C}_{1-8}$  alkyl,  $\text{C}_{2-8}$   
alkenyl,  $\text{C}_{2-8}$  alkynyl, F, Cl, Br, I,  $\text{NO}_2$ , CN,

- $(\text{CH}_2)_r\text{OH}$ ,  $(\text{CH}_2)_r\text{SH}$ ,  $(\text{CH}_2)_r\text{OR}^{9d}$ ,  $(\text{CH}_2)_r\text{SR}^{9d}$ ,  
 $(\text{CH}_2)_r\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{OH}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{R}^{9b}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{C}(\text{O})\text{R}^{9a}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{C}(\text{O})\text{H}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{OR}^{9b}$ ,  $(\text{CH}_2)_r\text{OC}(\text{O})\text{R}^{9b}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_p\text{R}^{9b}$ ,  
 $(\text{CH}_2)_r\text{S}(\text{O})_2\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{S}(\text{O})_2\text{R}^{9b}$ ,  $\text{C}_{1-6}$   
haloalkyl, a  $(\text{CH}_2)_r\text{-C}_{3-10}$  carbocyclic residue  
substituted with 0-5  $\text{R}^{9c}$ , and a  $(\text{CH}_2)_r\text{-5-10}$  membered  
heterocyclic system containing 1-4 heteroatoms  
selected from N, O, and S, substituted with 0-3  $\text{R}^{9c}$ ;
- $\text{R}^{9'}$  is independently selected from H,  $\text{C}_{1-8}$  alkyl,  $\text{C}_{2-8}$   
alkenyl,  $\text{C}_{2-8}$  alkynyl, F, Cl, Br, I,  $\text{NO}_2$ , CN,  
 $(\text{CH}_2)_r\text{OH}$ ,  $(\text{CH}_2)_r\text{SH}$ ,  $(\text{CH}_2)_r\text{OR}^{9d}$ ,  $(\text{CH}_2)_r\text{SR}^{9d}$ ,  
 $(\text{CH}_2)_r\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{OH}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{R}^{9b}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{C}(\text{O})\text{R}^{9a}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{C}(\text{O})\text{H}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{OR}^{9b}$ ,  $(\text{CH}_2)_r\text{OC}(\text{O})\text{R}^{9b}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_p\text{R}^{9b}$ ,  
 $(\text{CH}_2)_r\text{S}(\text{O})_2\text{NR}^{9a}\text{R}^{9a'}$ ,  $(\text{CH}_2)_r\text{NR}^{9a}\text{S}(\text{O})_2\text{R}^{9b}$ ,  $\text{C}_{1-6}$   
haloalkyl,  $(\text{CH}_2)_r\text{-C}_{3-6}$  cycloalkyl,  $(\text{CH}_2)_q\text{-phenyl}$   
substituted with 0-5  $\text{R}^{9c}$ , and a  $(\text{CH}_2)_q\text{-5-10}$  membered  
heterocyclic system containing 1-4 heteroatoms  
selected from N, O, and S, substituted with 0-3  $\text{R}^{9c}$ ;
- $\text{R}^{9a}$  and  $\text{R}^{9a'}$ , at each occurrence, are selected from H,  $\text{C}_{1-6}$   
alkyl,  $\text{C}_{2-8}$  alkenyl,  $\text{C}_{2-8}$  alkynyl, a  $(\text{CH}_2)_r\text{-C}_{3-10}$   
carbocyclic residue substituted with 0-5  $\text{R}^{9e}$ , and a  
 $(\text{CH}_2)_r\text{-5-10}$  membered heterocyclic system containing  
1-4 heteroatoms selected from N, O, and S,  
substituted with 0-3  $\text{R}^{9e}$ ;
- $\text{R}^{9b}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  $\text{C}_{2-8}$   
alkenyl,  $\text{C}_{2-8}$  alkynyl, a  $(\text{CH}_2)_r\text{-C}_{3-6}$  carbocyclic  
residue substituted with 0-2  $\text{R}^{9e}$ , and a  $(\text{CH}_2)_r\text{-5-6}$   
membered heterocyclic system containing 1-4  
heteroatoms selected from N, O, and S, substituted  
with 0-3  $\text{R}^{9e}$ ;

$R^{9c}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, Cl, Br, I, F,  $(CF_2)_rCF_3$ ,  $NO_2$ , CN,  $(CH_2)_rNR^{9f}R^{9f}$ ,  $(CH_2)_rOH$ ,  
 5  $(CH_2)_rOC_{1-4}$  alkyl,  $(CH_2)_rSC_{1-4}$  alkyl,  $(CH_2)_rC(O)OH$ ,  
 $(CH_2)_rC(O)R^{9b}$ ,  $(CH_2)_rC(O)NR^{9f}R^{9f}$ ,  $(CH_2)_rNR^{9f}C(O)R^{9a}$ ,  
 $(CH_2)_rC(O)OC_{1-4}$  alkyl,  $(CH_2)_rOC(O)R^{9b}$ ,  
 $(CH_2)_rC(=NR^{9f})NR^{9f}R^{9f}$ ,  $(CH_2)_rS(O)_pR^{9b}$ ,  
 $(CH_2)_rNHC(=NR^{9f})NR^{9f}R^{9f}$ ,  $(CH_2)_rS(O)_2NR^{9f}R^{9f}$ ,  
 $(CH_2)_rNR^{9f}S(O)_2R^{9b}$ , and  $(CH_2)_r$ phenyl substituted with  
 10 0-3  $R^{9e}$ ;

$R^{9d}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl, a  $C_{3-10}$  carbocyclic residue substituted with 0-3  $R^{9c}$ , and a 5-6 membered  
 15 heterocyclic system containing 1-4 heteroatoms selected from the group consisting of N, O, and S substituted with 0-3  $R^{9c}$ ;

$R^{9e}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl, OH, SH,  
 20  $(CH_2)_rSC_{1-5}$  alkyl,  $(CH_2)_rNR^{9f}R^{9f}$ , and  $(CH_2)_r$ phenyl;

$R^{9f}$ , at each occurrence, is selected from H,  $C_{1-5}$  alkyl, and  $C_{3-6}$  cycloalkyl;  
 25

$R^{10}$  is independently selected from H,  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl, F, Cl, Br, I,  $NO_2$ , CN,  $(CH_2)_rOH$ ,  $(CH_2)_rOR^{10d}$ ,  $(CH_2)_rSR^{10d}$ ,  $(CH_2)_rNR^{10a}R^{10a'}$ ,  
 30  $(CH_2)_rC(O)OH$ ,  $(CH_2)_rC(O)R^{10b}$ ,  $(CH_2)_rC(O)NR^{10a}R^{10a'}$ ,  
 $(CH_2)_rNR^{10a}C(O)R^{10a}$ ,  $(CH_2)_rNR^{10a}C(O)H$ ,  $(CH_2)_rC(O)OR^{10b}$ ,  
 $(CH_2)_rOC(O)R^{10b}$ ,  $(CH_2)_rS(O)_pR^{10b}$ ,  $(CH_2)_rS(O)_2NR^{10a}R^{10a'}$ ,  
 $(CH_2)_rNR^{10a}S(O)_2R^{10b}$ ,  $C_{1-6}$  haloalkyl, a  $(CH_2)_r-C_{3-10}$  carbocyclic residue substituted with 0-5  $R^{10c}$ , and a  
 35  $(CH_2)_r-5-10$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{10c}$ ;

R<sup>10a</sup> and R<sup>10a'</sup>, at each occurrence, are selected from H, C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-10</sub> carbocyclic residue substituted with 0-5 R<sup>10e</sup>, and a  
 5 (CH<sub>2</sub>)<sub>r</sub>-5-10 membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3 R<sup>10e</sup>;

R<sup>10b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> carbocyclic residue substituted with 0-2 R<sup>10e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6 membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3 R<sup>10e</sup>;

R<sup>10c</sup>, at each occurrence, is selected from C<sub>1-4</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> cycloalkyl, Cl, Br, I, F, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, NO<sub>2</sub>, CN, (CH<sub>2</sub>)<sub>r</sub>NR<sup>10f</sup>R<sup>10f</sup>, (CH<sub>2</sub>)<sub>r</sub>OH, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-4</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-4</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>C(O)OH, (CH<sub>2</sub>)<sub>r</sub>C(O)R<sup>10b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)NR<sup>10f</sup>R<sup>10f</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>10f</sup>C(O)R<sup>10a</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)OC<sub>1-4</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>OC(O)R<sup>10b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(=NR<sup>10f</sup>)NR<sup>10f</sup>R<sup>10f</sup>, (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>p</sub>R<sup>10b</sup>, (CH<sub>2</sub>)<sub>r</sub>NHC(=NR<sup>10f</sup>)NR<sup>10f</sup>R<sup>10f</sup>, (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>2</sub>NR<sup>10f</sup>R<sup>10f</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>10f</sup>S(O)<sub>2</sub>R<sup>10b</sup>, and  
 20 (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3 R<sup>10e</sup>;

R<sup>10d</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, a C<sub>3-10</sub> carbocyclic residue substituted with 0-3 R<sup>10c</sup>, and a 5-6 membered heterocyclic system containing 1-4 heteroatoms selected from the group consisting of N, O, and S substituted with 0-3 R<sup>10c</sup>;

R<sup>10e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, OH, SH, (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>NR<sup>10f</sup>R<sup>10f</sup>, and (CH<sub>2</sub>)<sub>r</sub>phenyl;

$R^{10f}$ , at each occurrence, is selected from H,  $C_{1-5}$  alkyl, and  $C_{3-6}$  cycloalkyl;

- 5 with the proviso that when  $R^{10}$  is -OH,  $R^9$  is not halogen, cyano, or bonded to the carbon to which it is attached through a heteroatom;

alternatively,  $R^9$  and  $R^{10}$  join to form  $C_{3-7}$  cycloalkyl;

10

$R^{11}$  is selected from H,  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_qOH$ ,  $(CH_2)_qSH$ ,  $(CH_2)_qOR^{11d}$ ,  $(CH_2)_qSR^{11d}$ ,  $(CH_2)_qNR^{11a}R^{11a'}$ ,  $(CH_2)_rC(O)OH$ ,  $(CH_2)_rC(O)R^{11b}$ ,  $(CH_2)_rC(O)NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}C(O)R^{11a}$ ,  
 15  $(CH_2)_rC(O)OR^{11b}$ ,  $(CH_2)_qOC(O)R^{11b}$ ,  $(CH_2)_qS(O)_pR^{11b}$ ,  $(CH_2)_qS(O)_2NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}S(O)_2R^{11b}$ ,  $C_{1-6}$  haloalkyl, a  $(CH_2)_r-C_{3-10}$  carbocyclic residue substituted with 0-5  $R^{11c}$ , and a  $(CH_2)_r-5-10$  membered heterocyclic system containing 1-4 heteroatoms  
 20 selected from N, O, and S, substituted with 0-3  $R^{11c}$ ;

$R^{11'}$  is selected from H,  $C_{1-8}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_qOH$ ,  $(CH_2)_qSH$ ,  $(CH_2)_qOR^{11d}$ ,  $(CH_2)_qSR^{11d}$ ,  $(CH_2)_qNR^{11a}R^{11a'}$ ,  $(CH_2)_rC(O)OH$ ,  $(CH_2)_rC(O)R^{11b}$ ,  
 25  $(CH_2)_rC(O)NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}C(O)R^{11a}$ ,  $(CH_2)_rC(O)OR^{11b}$ ,  $(CH_2)_qOC(O)R^{11b}$ ,  $(CH_2)_qS(O)_pR^{11b}$ ,  $(CH_2)_qS(O)_2NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}S(O)_2R^{11b}$ ,  $C_{1-6}$  haloalkyl, a  $(CH_2)_r-C_{3-6}$  cycloalkyl,  $(CH_2)_q$ -phenyl substituted with 0-5  $R^{11c}$ , and a  $(CH_2)_q-5-10$  membered heterocyclic system containing 1-4 heteroatoms  
 30 selected from N, O, and S, substituted with 0-3  $R^{11c}$ ;

$R^{11a}$  and  $R^{11a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl, a  $(CH_2)_r-C_{3-10}$  carbocyclic residue substituted with 0-5  $R^{11e}$ , and a  
 35  $(CH_2)_r-5-10$  membered heterocyclic system containing

1-4 heteroatoms selected from N, O, and S,  
substituted with 0-3 R<sup>11e</sup>;

5 R<sup>11b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> carbocyclic  
residue substituted with 0-2 R<sup>11e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6  
membered heterocyclic system containing 1-4  
heteroatoms selected from N, O, and S, substituted  
with 0-3 R<sup>11e</sup>;

10 R<sup>11c</sup>, at each occurrence, is selected from C<sub>1-4</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, Cl, Br,  
I, F, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, NO<sub>2</sub>, CN, (CH<sub>2</sub>)<sub>r</sub>NR<sup>11f</sup>R<sup>11f</sup>, (CH<sub>2</sub>)<sub>r</sub>OH,  
15 (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-4</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-4</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>C(O)OH,  
(CH<sub>2</sub>)<sub>r</sub>C(O)R<sup>11b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)NR<sup>11f</sup>R<sup>11f</sup>,  
(CH<sub>2</sub>)<sub>r</sub>NR<sup>11f</sup>C(O)R<sup>11a</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)OC<sub>1-4</sub> alkyl,  
(CH<sub>2</sub>)<sub>r</sub>OC(O)R<sup>11b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(=NR<sup>11f</sup>)NR<sup>11f</sup>R<sup>11f</sup>,  
(CH<sub>2</sub>)<sub>r</sub>NHC(=NR<sup>11f</sup>)NR<sup>11f</sup>R<sup>11f</sup>, (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>p</sub>R<sup>11b</sup>,  
20 (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>2</sub>NR<sup>11f</sup>R<sup>11f</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>11f</sup>S(O)<sub>2</sub>R<sup>11b</sup>, and  
(CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3 R<sup>11e</sup>;

R<sup>11d</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl  
substituted with 0-3 R<sup>11e</sup>, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl,  
and a C<sub>3-10</sub> carbocyclic residue substituted with 0-3  
25 R<sup>11c</sup>;

R<sup>11e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I,  
CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, OH, SH,  
30 (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>NR<sup>11f</sup>R<sup>11f</sup>, and (CH<sub>2</sub>)<sub>r</sub>phenyl;

R<sup>11f</sup>, at each occurrence, is selected from H, C<sub>1-5</sub> alkyl,  
and C<sub>3-6</sub> cycloalkyl;

35 R<sup>12</sup> is selected from H, C<sub>1-6</sub> alkyl, (CH<sub>2</sub>)<sub>q</sub>OH, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub>  
cycloalkyl, and (CH<sub>2</sub>)<sub>t</sub>phenyl substituted with 0-3  
R<sup>12a</sup>;

5  $R^{12a}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl, OH, SH,  $(CH_2)_rSC_{1-5}$  alkyl,  $(CH_2)_rNR^{9f}R^{9f}$ , and  $(CH_2)_r$ phenyl;

10  $R^{13}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $(CF_2)_wCF_3$ ,  $(CH_2)_qNR^{13a}R^{13a'}$ ,  $(CH_2)_qOH$ ,  $(CH_2)_qOR^{13b}$ ,  $(CH_2)_qSH$ ,  $(CH_2)_qSR^{13b}$ ,  $(CH_2)_wC(O)OH$ ,  $(CH_2)_wC(O)R^{13b}$ ,  $(CH_2)_wC(O)NR^{13a}R^{13a'}$ ,  $(CH_2)_qNR^{13d}C(O)R^{13a}$ ,  $(CH_2)_wC(O)OR^{13b}$ ,  $(CH_2)_qOC(O)R^{13b}$ ,  $(CH_2)_wS(O)_pR^{13b}$ ,  $(CH_2)_wS(O)_2NR^{13a}R^{13a'}$ ,  $(CH_2)_qNR^{13d}S(O)_2R^{13b}$ , and  $(CH_2)_w$ -phenyl substituted with 0-3  $R^{13c}$ ;

15  $R^{13a}$  and  $R^{13a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{13c}$ ;

20  $R^{13b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{13c}$ ;

25  $R^{13c}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl,  $(CH_2)_rOH$ ,  $(CH_2)_rSC_{1-5}$  alkyl, and  $(CH_2)_rNR^{13d}R^{13d}$ ;

30  $R^{13d}$ , at each occurrence, is selected from H,  $C_{1-6}$  alkyl, and  $C_{3-6}$  cycloalkyl;

35  $R^{14}$  is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $C(O)NR^{14a}R^{14a'}$ ,  $C(O)R^{14b}$ ,  $C(O)OC_{1-4}$  alkyl,  $(CH_2)_rS(O)_pR^{14b}$ ,  $(CH_2)_r$ phenyl substituted with 0-3  $R^{14c}$ ;

R<sup>14a</sup> and R<sup>14a'</sup>, at each occurrence, are selected from H,  
C<sub>1-6</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl  
substituted with 0-3 R<sup>14c</sup>, and a (CH<sub>2</sub>)<sub>r-5-10</sub> membered  
heterocyclic system containing 1-4 heteroatoms  
5 selected from N, O, and S, substituted with 0-2 R<sup>14c</sup>;

R<sup>14b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl,  
(CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted  
with 0-3 R<sup>14c</sup>, and a (CH<sub>2</sub>)<sub>r-5-10</sub> membered  
10 heterocyclic system containing 1-4 heteroatoms  
selected from N, O, and S, substituted with 0-2 R<sup>14c</sup>;  
and

R<sup>14c</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl,  
15 (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CN, NO<sub>2</sub>,  
(CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, OH, (CH<sub>2</sub>)<sub>w</sub>phenyl;

R<sup>15</sup>, at each occurrence, is selected from C<sub>1-8</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, Cl, Br,  
20 I, F, NO<sub>2</sub>, CN, (CHR')<sub>r</sub>NR<sup>15a</sup>R<sup>15a'</sup>, (CHR')<sub>r</sub>OH,  
(CHR')<sub>r</sub>O(CHR')<sub>r</sub>R<sup>15d</sup>, (CHR')<sub>r</sub>SH, (CHR')<sub>r</sub>C(O)H,  
(CHR')<sub>r</sub>S(CHR')<sub>r</sub>R<sup>15d</sup>, (CHR')<sub>r</sub>C(O)OH,  
(CHR')<sub>r</sub>C(O)(CHR')<sub>r</sub>R<sup>15b</sup>, (CHR')<sub>r</sub>C(O)NR<sup>15a</sup>R<sup>15a'</sup>,  
(CHR')<sub>r</sub>NR<sup>15f</sup>C(O)(CHR')<sub>r</sub>R<sup>15b</sup>, (CHR')<sub>r</sub>C(O)O(CHR')<sub>r</sub>R<sup>15d</sup>,  
25 (CHR')<sub>r</sub>OC(O)(CHR')<sub>r</sub>R<sup>15b</sup>, (CHR')<sub>r</sub>C(=NR<sup>15f</sup>)NR<sup>15a</sup>R<sup>15a'</sup>,  
(CHR')<sub>r</sub>NHC(=NR<sup>15f</sup>)NR<sup>15f</sup>R<sup>15f</sup>, (CHR')<sub>r</sub>S(O)<sub>p</sub>(CHR')<sub>r</sub>R<sup>15b</sup>,  
(CHR')<sub>r</sub>S(O)<sub>2</sub>NR<sup>15a</sup>R<sup>15a'</sup>, (CHR')<sub>r</sub>NR<sup>15f</sup>S(O)<sub>2</sub>(CHR')<sub>r</sub>R<sup>15b</sup>,  
C<sub>1-6</sub> haloalkyl, C<sub>2-8</sub> alkenyl substituted with 0-3 R',  
C<sub>2-8</sub> alkynyl substituted with 0-3 R', (CHR')<sub>r</sub>phenyl  
30 substituted with 0-3 R<sup>15e</sup>, and a (CH<sub>2</sub>)<sub>r-5-10</sub> membered  
heterocyclic system containing 1-4 heteroatoms  
selected from N, O, and S, substituted with 0-2 R<sup>15e</sup>;

R<sup>15a</sup> and R<sup>15a'</sup>, at each occurrence, are selected from H,  
35 C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-10</sub>  
carbocyclic residue substituted with 0-5 R<sup>15e</sup>, and a  
(CH<sub>2</sub>)<sub>r-5-10</sub> membered heterocyclic system containing

1-4 heteroatoms selected from N, O, and S,  
substituted with 0-2 R<sup>15e</sup>;

5 R<sup>15b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> carbocyclic  
residue substituted with 0-3 R<sup>15e</sup>, and (CH<sub>2</sub>)<sub>r</sub>-5-6  
membered heterocyclic system containing 1-4  
heteroatoms selected from N, O, and S, substituted  
with 0-2 R<sup>15e</sup>;

10 R<sup>15d</sup>, at each occurrence, is selected from C<sub>2-8</sub> alkenyl,  
C<sub>2-8</sub> alkynyl, C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>15e</sup>, a  
(CH<sub>2</sub>)<sub>r</sub>-C<sub>3-10</sub> carbocyclic residue substituted with 0-3  
R<sup>15e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6 membered heterocyclic system  
15 containing 1-4 heteroatoms selected from N, O, and  
S, substituted with 0-3 R<sup>15e</sup>;

R<sup>15e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> cycloalkyl, Cl, F,  
20 Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, OH, SH,  
(CH<sub>2</sub>)<sub>r</sub>SC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>NR<sup>15f</sup>R<sup>15f</sup>, and (CH<sub>2</sub>)<sub>r</sub>phenyl;

R<sup>15f</sup>, at each occurrence, is selected from H, C<sub>1-5</sub> alkyl,  
C<sub>3-6</sub> cycloalkyl, and phenyl;

25 R<sup>16</sup>, at each occurrence, is selected from C<sub>1-8</sub> alkyl, C<sub>2-8</sub>  
alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-6</sub> cycloalkyl, Cl, Br,  
I, F, NO<sub>2</sub>, CN, (CHR')<sub>r</sub>NR<sup>16a</sup>R<sup>16a'</sup>, (CHR')<sub>r</sub>OH,  
(CHR')<sub>r</sub>O(CHR')<sub>r</sub>R<sup>16d</sup>, (CHR')<sub>r</sub>SH, (CHR')<sub>r</sub>C(O)H,  
30 (CHR')<sub>r</sub>S(CHR')<sub>r</sub>R<sup>16d</sup>, (CHR')<sub>r</sub>C(O)OH,  
(CHR')<sub>r</sub>C(O)(CHR')<sub>r</sub>R<sup>16b</sup>, (CHR')<sub>r</sub>C(O)NR<sup>16a</sup>R<sup>16a'</sup>,  
(CHR')<sub>r</sub>NR<sup>16f</sup>C(O)(CHR')<sub>r</sub>R<sup>16b</sup>, (CHR')<sub>r</sub>C(O)O(CHR')<sub>r</sub>R<sup>16d</sup>,  
(CHR')<sub>r</sub>OC(O)(CHR')<sub>r</sub>R<sup>16b</sup>, (CHR')<sub>r</sub>C(=NR<sup>16f</sup>)NR<sup>16a</sup>R<sup>16a'</sup>,  
(CHR')<sub>r</sub>NHC(=NR<sup>16f</sup>)NR<sup>16f</sup>R<sup>16f</sup>, (CHR')<sub>r</sub>S(O)<sub>p</sub>(CHR')<sub>r</sub>R<sup>16b</sup>,  
35 (CHR')<sub>r</sub>S(O)<sub>2</sub>NR<sup>16a</sup>R<sup>16a'</sup>, (CHR')<sub>r</sub>NR<sup>16f</sup>S(O)<sub>2</sub>(CHR')<sub>r</sub>R<sup>16b</sup>,  
C<sub>1-6</sub> haloalkyl, C<sub>2-8</sub> alkenyl substituted with 0-3 R',

C<sub>2-8</sub> alkynyl substituted with 0-3 R', and  
 (CHR')<sub>r</sub>phenyl substituted with 0-3 R<sup>16e</sup>;

- 5 R<sup>16a</sup> and R<sup>16a'</sup>, at each occurrence, are selected from H,  
 C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-10</sub>  
 carbocyclic residue substituted with 0-5 R<sup>16e</sup>, and a  
 (CH<sub>2</sub>)<sub>r</sub>-5-10 membered heterocyclic system containing  
 1-4 heteroatoms selected from N, O, and S,  
 substituted with 0-2 R<sup>16e</sup>;
- 10 R<sup>16b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
 alkenyl, C<sub>2-8</sub> alkynyl, a (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> carbocyclic  
 residue substituted with 0-3 R<sup>16e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6  
 membered heterocyclic system containing 1-4  
 15 heteroatoms selected from N, O, and S, substituted  
 with 0-2 R<sup>16e</sup>;
- 20 R<sup>16d</sup>, at each occurrence, is selected from C<sub>2-8</sub> alkenyl,  
 C<sub>2-8</sub> alkynyl, C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>16e</sup>, a  
 (CH<sub>2</sub>)<sub>r</sub>-C<sub>3-10</sub> carbocyclic residue substituted with 0-3  
 R<sup>16e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6 membered heterocyclic system  
 containing 1-4 heteroatoms selected from N, O, and  
 S, substituted with 0-3 R<sup>16e</sup>;
- 25 R<sup>16e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub>  
 alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, Cl, F,  
 Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, OH, SH,  
 (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>NR<sup>16f</sup>R<sup>16f</sup>, and (CH<sub>2</sub>)<sub>r</sub>phenyl;
- 30 R<sup>16f</sup>, at each occurrence, is selected from H, C<sub>1-5</sub> alkyl,  
 and C<sub>3-6</sub> cycloalkyl, and phenyl;
- v is selected from 0, 1, and 2;
- 35 t is selected from 1 and 2;
- w is selected from 0 and 1;

r is selected from 0, 1, 2, 3, 4, and 5;

q is selected from 1, 2, 3, 4, and 5; and

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p is selected from 1, 2, and 3.

2. The compound according to Claim 1, wherein:

10 R<sup>4</sup> is absent, taken with the nitrogen to which it is attached to form an N-oxide, or selected from C<sub>1-8</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>-phenyl substituted with 0-3 R<sup>4c</sup>;

15 R<sup>4c</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>OH, (CH<sub>2</sub>)<sub>r</sub>SC<sub>1-5</sub> alkyl, (CH<sub>2</sub>)<sub>r</sub>NR<sup>4a</sup>R<sup>4a'</sup>, and (CH<sub>2</sub>)<sub>r</sub>phenyl;

20 R<sup>2</sup> is selected from H and C<sub>1-4</sub> alkyl;

R<sup>6</sup>, at each occurrence, is selected from C<sub>1-4</sub> alkyl, C<sub>2-8</sub> alkenyl, C<sub>2-8</sub> alkynyl, (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, CN, (CH<sub>2</sub>)<sub>r</sub>OH, (CH<sub>2</sub>)<sub>r</sub>OR<sup>6b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)R<sup>6b</sup>,  
 25 (CH<sub>2</sub>)<sub>r</sub>C(O)NR<sup>6a</sup>R<sup>6a'</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>6d</sup>C(O)R<sup>6a</sup>, and (CH<sub>2</sub>)<sub>t</sub>phenyl substituted with 0-3 R<sup>6c</sup>;

R<sup>6a</sup> and R<sup>6a'</sup>, at each occurrence, are selected from H, C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, and phenyl substituted with  
 30 0-3 R<sup>6c</sup>;

R<sup>6b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, and phenyl substituted with 0-3 R<sup>6c</sup>;

35 R<sup>6c</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>,

$(\text{CH}_2)_r\text{OC}_{1-5}$  alkyl,  $(\text{CH}_2)_r\text{OH}$ ,  $(\text{CH}_2)_r\text{SC}_{1-5}$  alkyl, and  
 $(\text{CH}_2)_r\text{NR}^{6d}\text{R}^{6d}$ ;

5  $\text{R}^{6d}$ , at each occurrence, is selected from H,  $\text{C}_{1-6}$  alkyl,  
 and  
 $\text{C}_{3-6}$  cycloalkyl;

10  $\text{R}^7$ , is selected from H,  $\text{C}_{1-3}$  alkyl,  $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl,  
 $(\text{CH}_2)_q\text{OH}$ ,  $(\text{CH}_2)_q\text{OR}^{7d}$ ,  $(\text{CH}_2)_q\text{NR}^{7a}\text{R}^{7a'}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{R}^{7b}$ ,  
 $(\text{CH}_2)_r\text{C}(\text{O})\text{NR}^{7a}\text{R}^{7a'}$ ,  $(\text{CH}_2)_q\text{NR}^{7a}\text{C}(\text{O})\text{R}^{7a}$ ,  $\text{C}_{1-6}$  haloalkyl,  
 $(\text{CH}_2)_r\text{phenyl}$  with 0-2  $\text{R}^{7c}$ ;

15  $\text{R}^{7a}$  and  $\text{R}^{7a'}$ , at each occurrence, are selected from H,  $\text{C}_{1-6}$   
 alkyl,  $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl, a  $(\text{CH}_2)_r\text{phenyl}$   
 substituted with 0-3  $\text{R}^{7e}$ ;

20  $\text{R}^{7b}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  $\text{C}_{2-8}$   
 alkenyl,  $\text{C}_{2-8}$  alkynyl,  $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl,  
 $(\text{CH}_2)_r\text{phenyl}$  substituted with 0-3  $\text{R}^{7e}$ ;

25  $\text{R}^{7c}$ , at each occurrence, is selected from  $\text{C}_{1-4}$  alkyl,  $\text{C}_{2-8}$   
 alkenyl,  $\text{C}_{2-8}$  alkynyl,  $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl, Cl, Br,  
 I, F,  $(\text{CF}_2)_r\text{CF}_3$ ,  $\text{NO}_2$ , CN,  $(\text{CH}_2)_r\text{NR}^{7f}\text{R}^{7f}$ ,  $(\text{CH}_2)_r\text{OH}$ ,  
 $(\text{CH}_2)_r\text{OC}_{1-4}$  alkyl,  $(\text{CH}_2)_r\text{C}(\text{O})\text{R}^{7b}$ ,  $(\text{CH}_2)_r\text{C}(\text{O})\text{NR}^{7f}\text{R}^{7f}$ ,  
 $(\text{CH}_2)_r\text{NR}^{7f}\text{C}(\text{O})\text{R}^{7a}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_p\text{R}^{7b}$ ,  $(\text{CH}_2)_r\text{S}(\text{O})_2\text{NR}^{7f}\text{R}^{7f}$ ,  
 $(\text{CH}_2)_r\text{NR}^{7f}\text{S}(\text{O})_2\text{R}^{7b}$ , and  $(\text{CH}_2)_r\text{phenyl}$  substituted with  
 0-2  $\text{R}^{7e}$ ;

30  $\text{R}^{7d}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  
 $(\text{CH}_2)_r\text{C}_{3-6}$  cycloalkyl,  $(\text{CH}_2)_r\text{phenyl}$  substituted with  
 0-3  $\text{R}^{7e}$ ;

35  $\text{R}^{7e}$ , at each occurrence, is selected from  $\text{C}_{1-6}$  alkyl,  $\text{C}_{2-8}$   
 alkenyl,  $\text{C}_{2-8}$  alkynyl,  $\text{C}_{3-6}$  cycloalkyl, Cl, F, Br, I,  
 CN,  $\text{NO}_2$ ,  $(\text{CF}_2)_r\text{CF}_3$ ,  $(\text{CH}_2)_r\text{OC}_{1-5}$  alkyl, OH, SH,  
 $(\text{CH}_2)_r\text{SC}_{1-5}$  alkyl,  $(\text{CH}_2)_r\text{NR}^{7f}\text{R}^{7f}$ , and  $(\text{CH}_2)_r\text{phenyl}$ ;

$R^{7f}$ , at each occurrence, is selected from H,  $C_{1-5}$  alkyl, and  $C_{3-6}$  cycloalkyl;

$R^8$  is H or joins with  $R^7$  to form  $=NR^{8b}$ ;

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$R^9$ , is selected from H,  $C_{1-3}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_rOH$ ,  $(CH_2)_rOR^{9d}$ ,  $(CH_2)_rNR^{9a}R^{9a'}$ ,  $(CH_2)_rC(O)R^{9b}$ ,  $(CH_2)_rC(O)NR^{9a}R^{9a'}$ ,  $(CH_2)_rNR^{9a}C(O)R^{9a}$ ,  $C_{1-6}$  haloalkyl,  $(CH_2)_r$ phenyl with 0-2  $R^{9c}$ ,  $(CH_2)_r$ -5-10 membered

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heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{15}$ ;

$R^{9'}$ , is selected from H,  $C_{1-3}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_rOH$ ,  $(CH_2)_rOR^{9d}$ ,  $(CH_2)_rNR^{9a}R^{9a'}$ ,  $(CH_2)_rC(O)R^{9b}$ ,  $(CH_2)_rC(O)NR^{9a}R^{9a'}$ ,  $(CH_2)_rNR^{9a}C(O)R^{9a}$ ,  $C_{1-6}$  haloalkyl,  $(CH_2)_r$ phenyl with 0-2  $R^{9c}$ ,  $(CH_2)_r$ -5-10 membered

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heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{15}$ ;

20  $R^{9a}$  and  $R^{9a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, a  $(CH_2)_r$ phenyl substituted with 0-3  $R^{9e}$ ;

25  $R^{9b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_r$ phenyl substituted with 0-3  $R^{9e}$ ;

$R^{9c}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, Cl, Br, I, F,  $(CF_2)_rCF_3$ ,  $NO_2$ , CN,  $(CH_2)_rNR^{9f}R^{9f}$ ,  $(CH_2)_rOH$ ,  $(CH_2)_rOC_{1-4}$  alkyl,  $(CH_2)_rC(O)R^{9b}$ ,  $(CH_2)_rC(O)NR^{9f}R^{9f}$ ,  $(CH_2)_rNR^{9f}C(O)R^{9a}$ ,  $(CH_2)_rS(O)_pR^{9b}$ ,  $(CH_2)_rS(O)_2NR^{9f}R^{9f}$ ,  $(CH_2)_rNR^{9f}S(O)_2R^{9b}$ , and  $(CH_2)_r$ phenyl substituted with 0-2  $R^{9e}$ ;

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- $R^{9d}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_r$ phenyl substituted with 0-3  $R^{9e}$ ;
- 5  $R^{9e}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl, OH, SH,  $(CH_2)_rSC_{1-5}$  alkyl,  $(CH_2)_rNR^{9f}R^{9f}$ , and  $(CH_2)_r$ phenyl;
- 10  $R^{9f}$ , at each occurrence, is selected from H,  $C_{1-5}$  alkyl and  $C_{3-6}$  cycloalkyl;
- $R^{10}$  is H;
- 15  $R^{11}$ , is selected from H,  $C_{1-3}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_qOH$ ,  $(CH_2)_qOR^{11d}$ ,  $(CH_2)_qNR^{11a}R^{11a'}$ ,  $(CH_2)_rC(O)R^{11b}$ ,  $(CH_2)_rC(O)NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}C(O)R^{11a}$ ,  $C_{1-6}$  haloalkyl,  $(CH_2)_r$ phenyl with 0-2  $R^{11c}$ ,  $(CH_2)_{r-5-10}$  membered heterocyclic system containing 1-4
- 20 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{15}$ ;
- $R^{11'}$ , is selected from H,  $C_{1-3}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_qOH$ ,  $(CH_2)_qOR^{11d}$ ,  $(CH_2)_qNR^{11a}R^{11a'}$ ,
- 25  $(CH_2)_rC(O)R^{11b}$ ,  $(CH_2)_rC(O)NR^{11a}R^{11a'}$ ,  $(CH_2)_qNR^{11a}C(O)R^{11a}$ ,  $C_{1-6}$  haloalkyl,  $(CH_2)_r$ phenyl with 0-2  $R^{11c}$ ,  $(CH_2)_{r-5-10}$  membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-3  $R^{15}$ ;
- 30  $R^{11a}$  and  $R^{11a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $(CH_2)_rC_{3-6}$  cycloalkyl, a  $(CH_2)_r$ phenyl substituted with 0-3  $R^{11e}$ ;
- 35  $R^{11b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_rC_{3-6}$  cycloalkyl,  $(CH_2)_r$ phenyl substituted with 0-3  $R^{11e}$ ;

- $R^{11c}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $(CH_2)_r C_{3-6}$  cycloalkyl, Cl, Br, I, F,  $(CF_2)_r CF_3$ ,  $NO_2$ , CN,  $(CH_2)_r NR^{11f} R^{11f}$ ,  $(CH_2)_r OH$ ,  
 5  $(CH_2)_r OC_{1-4}$  alkyl,  $(CH_2)_r C(O) R^{11b}$ ,  $(CH_2)_r C(O) NR^{11f} R^{11f}$ ,  $(CH_2)_r NR^{11f} C(O) R^{11a}$ ,  $(CH_2)_r S(O)_p R^{11b}$ ,  $(CH_2)_r S(O)_2 NR^{11f} R^{11f}$ ,  $(CH_2)_r NR^{11f} S(O)_2 R^{11b}$ , and  $(CH_2)_r$  phenyl substituted with 0-2  $R^{11e}$ ;
- 10  $R^{11d}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $(CH_2)_r C_{3-6}$  cycloalkyl,  $(CH_2)_r$  phenyl substituted with 0-3  $R^{11e}$ ;
- 15  $R^{11e}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{2-8}$  alkenyl,  $C_{2-8}$  alkynyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_r CF_3$ ,  $(CH_2)_r OC_{1-5}$  alkyl, OH, SH,  $(CH_2)_r SC_{1-5}$  alkyl,  $(CH_2)_r NR^{11f} R^{11f}$ , and  $(CH_2)_r$  phenyl;
- 20  $R^{11f}$ , at each occurrence, is selected from H,  $C_{1-5}$  alkyl and  $C_{3-6}$  cycloalkyl;
- $R^{12}$  is H;
- 25  $R^{13}$ , at each occurrence, is selected from  $C_{1-4}$  alkyl,  $C_{3-6}$  cycloalkyl,  $(CH_2) NR^{13a} R^{13a'}$ ,  $(CH_2) OH$ ,  $(CH_2) OR^{13b}$ ,  $(CH_2)_w C(O) R^{13b}$ ,  $(CH_2)_w C(O) NR^{13a} R^{13a'}$ ,  $(CH_2) NR^{13d} C(O) R^{13a}$ ,  $(CH_2)_w S(O)_2 NR^{13a} R^{13a'}$ ,  $(CH_2) NR^{13d} S(O)_2 R^{13b}$ , and  $(CH_2)_w$ -phenyl substituted with 0-3  $R^{13c}$ ;
- 30  $R^{13a}$  and  $R^{13a'}$ , at each occurrence, are selected from H,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{13c}$ ;
- 35  $R^{13b}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and phenyl substituted with 0-3  $R^{13c}$ ;

$R^{13c}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, Cl, F, Br, I, CN,  $NO_2$ ,  $(CF_2)_rCF_3$ ,  $(CH_2)_rOC_{1-5}$  alkyl,  $(CH_2)_rOH$ , and  $(CH_2)_rNR^{13d}R^{13d}$ ;

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$R^{13d}$ , at each occurrence, is selected from H,  $C_{1-6}$  alkyl, and  $C_{3-6}$  cycloalkyl;

10  $v$  is selected from 1 and 2;

$q$  is selected from 1, 2, and 3; and

$r$  is selected from 0, 1, 2, and 3.

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3. The compound according to Claim 2, wherein:

$R^3$  is selected from a  $(CR^{3'}H)_r$ -carbocyclic residue substituted with 0-5  $R^{15}$ , wherein the carbocyclic residue is selected from phenyl,  $C_{3-6}$  cycloalkyl, naphthyl, and adamantyl; and a  $(CR^{3'}H)_r$ -heterocyclic system substituted with 0-3  $R^{15}$ , wherein the heterocyclic system is selected from pyridinyl, thiophenyl, furanyl, indazolyl, benzothiazolyl, benzimidazolyl, benzothiophenyl, benzofuranyl, benzoxazolyl, benzisoxazolyl, quinolinyl, isoquinolinyl, imidazolyl, indolyl, isoindolyl, piperidinyl, pyrrazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl, tetrazolyl, thiazolyl, oxazolyl, pyrazinyl, and pyrimidinyl; and

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$R^5$  is selected from  $(CR^{5'}H)_t$ -phenyl substituted with 0-5  $R^{16}$ ; and a  $(CR^{5'}H)_t$ -heterocyclic system substituted with 0-3  $R^{16}$ , wherein the heterocyclic system is selected from pyridinyl, thiophenyl, furanyl, indazolyl, benzothiazolyl, benzimidazolyl, benzothiophenyl, benzofuranyl, benzoxazolyl,

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benzisoxazolyl, quinolinyl, isoquinolinyl,  
 imidazolyl, indolyl, isoindolyl, piperidinyl,  
 pyrrazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl,  
 tetrazolyl, thiazolyl, oxazolyl, pyrazinyl, and  
 5 pyrimidinyl.

4. The compound according to Claim 3, wherein:

10  $R^4$  is absent; and

$R^9$ ,  $R^{9'}$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{11'}$ ,  $R^{12}$ , and  $R^{13}$  are H.

5. The compound according to Claim 4, wherein the

15  $R^{16}$ , at each occurrence, is selected from  $C_{1-8}$  alkyl,  
 $(CH_2)_r C_{3-6}$  cycloalkyl,  $CF_3$ , Cl, Br, I, F,  
 $(CH_2)_r NR^{16a} R^{16a'}$ ,  $NO_2$ , CN, OH,  $(CH_2)_r OR^{16d}$ ,  
 $(CH_2)_r C(O) R^{16b}$ ,  $(CH_2)_r C(O) NR^{16a} R^{16a'}$ ,  
 $(CH_2)_r NR^{16f} C(O) R^{16b}$ ,  $(CH_2)_r S(O)_p R^{16b}$ ,  
 20  $(CH_2)_r S(O)_2 NR^{16a} R^{16a'}$ ,  $(CH_2)_r NR^{16f} S(O)_2 R^{16b}$ , and  
 $(CH_2)_r$  phenyl substituted with 0-3  $R^{16e}$ ;

$R^{16a}$  and  $R^{16a'}$ , at each occurrence, are selected from H,  
 $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, and  $(CH_2)_r$  phenyl  
 25 substituted with 0-3  $R^{16e}$ ;

$R^{16b}$ , at each occurrence, is selected from H,  $C_{1-6}$  alkyl,  
 $C_{3-6}$  cycloalkyl, and  $(CH_2)_r$  phenyl substituted with 0-  
 3  $R^{16e}$ ;

30  $R^{16d}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl and  
 phenyl;

$R^{16e}$ , at each occurrence, is selected from  $C_{1-6}$  alkyl, Cl,  
 35 F, Br, I, CN,  $NO_2$ ,  $(CF_2)_r CF_3$ , OH, and  $(CH_2)_r OC_{1-5}$   
 alkyl; and

R<sup>16f</sup>, at each occurrence, is selected from H, and C<sub>1-5</sub> alkyl.

6. The compound according to Claim 5, wherein R<sup>5</sup> is  
5 CH<sub>2</sub>-phenyl substituted with 0-3 R<sup>16</sup>.

7. The compound according to Claim 6, wherein:

R<sup>3</sup> is selected from a carbocyclic residue substituted with  
10 0-3 R<sup>15</sup>, wherein the carbocyclic residue is selected from phenyl and C<sub>3-6</sub> cycloalkyl; and a heterocyclic system substituted with 0-3 R<sup>15</sup>, wherein the heterocyclic system is selected from pyridinyl, thiophenyl, furanyl, indazolyl, benzothiazolyl,  
15 benzimidazolyl, benzothiophenyl, benzofuranyl, benzoxazolyl, benzisoxazolyl, quinolinyl, isoquinolinyl, imidazolyl, indolyl, isoindolyl, piperidinyl, pyrrazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl, tetrazolyl, thiazolyl, oxazolyl,  
20 pyrazinyl, and pyrimidinyl.

8. The compound according to Claim 7, wherein:

R<sup>15</sup>, at each occurrence, is selected from C<sub>1-8</sub> alkyl,  
25 (CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, CF<sub>3</sub>, Cl, Br, I, F, (CH<sub>2</sub>)<sub>r</sub>NR<sup>15a</sup>R<sup>15a'</sup>, NO<sub>2</sub>, CN, OH, (CH<sub>2</sub>)<sub>r</sub>OR<sup>15d</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)R<sup>15b</sup>, (CH<sub>2</sub>)<sub>r</sub>C(O)NR<sup>15a</sup>R<sup>15a'</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>15f</sup>C(O)R<sup>15b</sup>, (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>p</sub>R<sup>15b</sup>, (CH<sub>2</sub>)<sub>r</sub>S(O)<sub>2</sub>NR<sup>15a</sup>R<sup>15a'</sup>, (CH<sub>2</sub>)<sub>r</sub>NR<sup>15f</sup>S(O)<sub>2</sub>R<sup>15b</sup>,  
30 (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3 R<sup>15e</sup>, and a (CH<sub>2</sub>)<sub>r</sub>-5-6 membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-2 R<sup>15e</sup>;

35 R<sup>15a</sup> and R<sup>15a'</sup>, at each occurrence, are selected from H, C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3 R<sup>15e</sup>;

R<sup>15b</sup>, at each occurrence, is selected from H, C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3 R<sup>15e</sup>;

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R<sup>15d</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl and phenyl;

10 R<sup>15e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, Cl, F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, OH, and (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub> alkyl; and

R<sup>15f</sup>, at each occurrence, is selected from H, and C<sub>1-5</sub> alkyl.

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9. The compound according to Claim 8, wherein E is -CR<sup>7</sup>R<sup>8</sup>-.

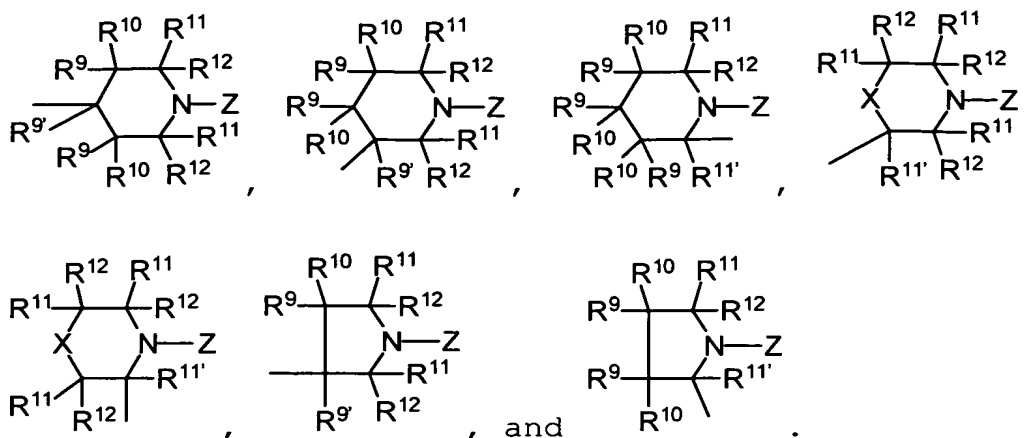
20 10. The compound according to Claim 9, wherein:  
Z is selected from C(O)NR<sup>2</sup>R<sup>3</sup>, C(=NR<sup>1</sup>)NR<sup>2</sup>R<sup>3</sup>, C(=CHCN)NR<sup>2</sup>R<sup>3</sup>, C(=CHNO<sub>2</sub>)NR<sup>2</sup>R<sup>3</sup>, and C(=C(CN)<sub>2</sub>)NR<sup>2</sup>R<sup>3</sup>.

11. The compound according to Claim 10, wherein:  
R<sup>6</sup> is H; and  
25 when K is CHR<sup>5</sup>, either:  
1) M is absent, or  
2) Z is other than C(O)NR<sup>2</sup>R<sup>3</sup>.

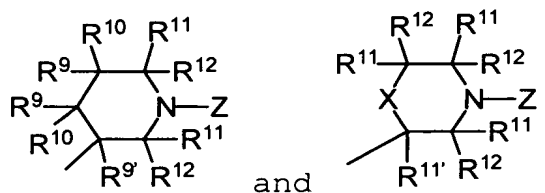
30 12. The compound according to Claim 11, wherein E  
is  
-CH<sub>2</sub>-.

13. The compound according to Claim 11, wherein:  
Y is selected from:

35



- 5            14. The compound according to Claim 13, wherein:  
Y is selected from:



- 10            15. The compound according to Claim 11, wherein:  
R<sup>16</sup>, at each occurrence, is selected from C<sub>1-8</sub> alkyl,  
(CH<sub>2</sub>)<sub>r</sub>C<sub>3-6</sub> cycloalkyl, CF<sub>3</sub>, Cl, Br, I, F,  
(CH<sub>2</sub>)<sub>r</sub>NR<sup>16a</sup>R<sup>16a'</sup>, CN, OH, OCF<sub>3</sub>, (CH<sub>2</sub>)<sub>r</sub>OR<sup>16d</sup>,  
(CH<sub>2</sub>)<sub>r</sub>C(O)R<sup>16b</sup>;  
15            R<sup>16a</sup> and R<sup>16a'</sup>, at each occurrence, are selected from H,  
C<sub>1-6</sub> alkyl, and C<sub>3-6</sub> cycloalkyl;  
R<sup>16b</sup>, at each occurrence, is selected from H, C<sub>1-6</sub> alkyl,  
20            C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-  
3 R<sup>16e</sup>;  
R<sup>16d</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl and  
phenyl.  
25            16. The compound according to Claim 15, wherein R<sup>16</sup>  
is selected from F, Cl, Br, OCF<sub>3</sub>, and CF<sub>3</sub>.

17. The compound according to Claim 11, wherein:

5 R<sup>15</sup>, at each occurrence, is selected from CN, C(O)R<sup>15b</sup>, and  
a (CH<sub>2</sub>)<sub>r-5-6</sub> membered heterocyclic system containing  
1-4 heteroatoms selected from N, O, and S,  
substituted with 0-2 R<sup>15e</sup>;

10 R<sup>15b</sup>, at each occurrence, is selected from H, C<sub>1-6</sub> alkyl,  
C<sub>3-6</sub> cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-  
3 R<sup>15e</sup>; and

15 R<sup>15e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, Cl,  
F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, OH, and (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub>  
alkyl.

18. The compound according to Claim 15, wherein:

20 R<sup>15</sup>, at each occurrence, is selected from CN, C(O)R<sup>15b</sup>,  
and a (CH<sub>2</sub>)<sub>r-5-6</sub> membered heterocyclic system  
containing 1-4 heteroatoms selected from N, O, and  
S, substituted with 0-2 R<sup>15e</sup>;

25 R<sup>15b</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, C<sub>3-6</sub>  
cycloalkyl, and (CH<sub>2</sub>)<sub>r</sub>phenyl substituted with 0-3  
R<sup>15e</sup>; and

30 R<sup>15e</sup>, at each occurrence, is selected from C<sub>1-6</sub> alkyl, Cl,  
F, Br, I, CN, NO<sub>2</sub>, (CF<sub>2</sub>)<sub>r</sub>CF<sub>3</sub>, OH, and (CH<sub>2</sub>)<sub>r</sub>OC<sub>1-5</sub>  
alkyl.

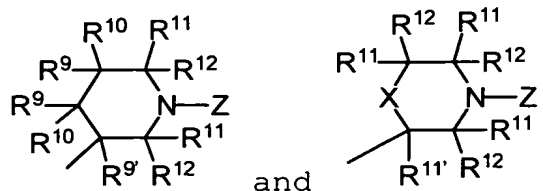
19. The compound according to Claim 11, wherein:

J and Q are CH<sub>2</sub>; and  
35 M is absent or CH<sub>2</sub>.

20. The compound according to Claim 15, wherein:

E is  $-\text{CH}_2-$ ; and

Y is selected from:

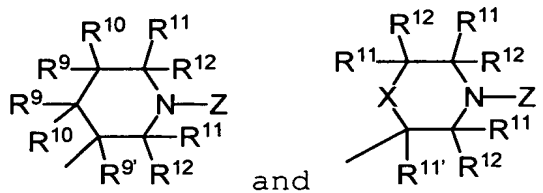


5

21. The compound according to Claim 17, wherein:

E is  $-\text{CH}_2-$ ; and

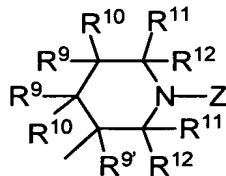
Y is selected from:



10

22. The compound according to Claim 19, wherein:

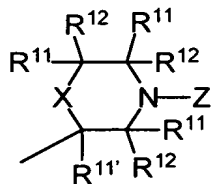
Y is:



15

23. The compound according to Claim 19, wherein:

Y is:



, and X is selected from O and  $\text{NR}^{14}$ .

20

24. The compound according to Claim 22, wherein K is  $\text{CH}_2$ .

25. The compound according to Claim 23, wherein K is  $\text{CH}_2$ .

26. The compound according to Claim 1, wherein:  
Z is selected from  $C(=NR^1)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

5        27. The compound according to Claim 2, wherein:  
Z is selected from  $C(=NR^1)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

28. The compound according to Claim 4, wherein:  
Z is selected from  $C(=NR^1)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

10       29. The compound according to Claim 7, wherein:  
Z is selected from  $C(=NR^1)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

30. The compound according to Claim 13, wherein:  
15    Z is selected from  $C(=NR^1)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

31. The compound according to Claim 22, wherein:  
Z is selected from  $C(=NCN)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

20       32. The compound according to Claim 23, wherein:  
Z is selected from  $C(=NCN)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

33. The compound according to Claim 24, wherein:  
Z is selected from  $C(=NCN)NHR^3$  and  $C(=C(CN)_2)NHR^3$ ; and  $R^{16}$   
25    is selected from F, Cl, Br,  $OCF_3$ , and  $CF_3$ .

34. The compound according to Claim 25, wherein:  
Z is selected from  $C(=NCN)NHR^3$  and  $C(=C(CN)_2)NHR^3$ ; and  $R^{16}$   
is selected from F, Cl, Br,  $OCF_3$ , and  $CF_3$ .

30       35. The compound according to Claim 14, wherein:  
Z is selected from  $C(=NCN)NR^2R^3$  and  $C(=C(CN)_2)NR^2R^3$ .

36. The compound according to Claim 11, wherein  $R^3$   
35    is phenyl substituted with 0-3  $R^{15}$ .

37. The compound according to Claim 14, wherein R<sup>3</sup> is phenyl substituted with 0-3 R<sup>15</sup>.

38. The compound according to Claim 17, wherein R<sup>3</sup> is phenyl substituted with 0-3 R<sup>15</sup>.

39. The compound according to Claim 14, wherein:  
R<sup>3</sup> is phenyl substituted with 0-3 R<sup>15</sup>;  
Z is selected from C(=NR<sup>1</sup>)NR<sup>2</sup>R<sup>3</sup> and C(=C(CN)<sub>2</sub>)NR<sup>2</sup>R<sup>3</sup>;  
J and Q are CH<sub>2</sub>; and  
M is absent or CH<sub>2</sub>.

40. The compound according to Claim 1, wherein the compound of formula I is selected from:

(+/-)-N-phenyl-3-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,  
  
(+/-)-N-(3-methoxyphenyl)-3-[[4-(phenylmethyl)-1-piperidinyl] methyl]-1-piperidinecarboxamide,  
  
(+/-)-N-(3-carboethoxyphenyl)-3-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,  
  
(+/-)-N-(3-cyanophenyl)-3-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,  
  
(+/-)-N-(1-adamantyl)-3-[[4-(phenylmethyl)-1-piperidinyl] methyl]-1-piperidinecarboxamide,  
  
N-phenyl-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,  
  
N-(3-cyanophenyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,

N-(1-adamantyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,

5 N-(3-methoxyphenyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,

N-(3-carboethoxyphenyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-1-piperidinecarboxamide,

10 1-benzoyl-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

1-phenylacetyl-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

15 1-(3,4-dimethoxybenzoyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

20 1-(3,5-dichlorobenzoyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

1-(3,5-difluorobenzoyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

25 1-(3,5-dimethoxybenzoyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

1-(3,4-methylenedioxybenzoyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

30 1-(2-thiophenesulfonyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]-piperidinecarboxamide,

35 1-(3-methoxyphenylacetyl)-4-[[4-(phenylmethyl)-1-piperidinyl]methyl]piperidine,

1-(4-methoxyphenylacetyl)-4-[[4-(phenylmethyl)-1-piperidinyl] methyl]piperidine,

(+/-)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] methyl]-1-piperidinecarboxamide,

(+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(1-adamantylphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(4-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(1-adamantylphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

5 (+/-)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] ethyl]-1-piperidinecarboxamide,

(+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

10

(+/-)-1-phenylsulfonyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-piperidinecarboxamide,

15 (+/-)-1-benzoyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] ethyl]-1-piperidinecarboxamide,

(+/-)-1-benzyloxycarbonyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

20 (+/-)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] methyl]-1-pyrrolidinecarboxamide,

(+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-pyrrolidinecarboxamide,

25

(+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-pyrrolidinecarboxamide,

30 (+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

(+/-)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-pyrrolidinecarboxamide,

35

(+/-)-N-(4-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-pyrrolidinecarboxamide,

5 (+/-)-N-(1-adamantylphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-pyrrolidinecarboxamide,

(+/-)-N-phenyl-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(3-cyanophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

15 (+/-)-N-(3-methoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(4-fluorophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

20

(+/-)-N-(3-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

25 (+/-)-N-(4-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

(+/-)-N-(1-adamantylphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]ethyl]-1-piperidinecarboxamide,

30

(+/-)-N-phenyl-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

35

(+/-)-N-(3-cyanophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,

- (+/-)-N-(3-methoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,
- 5 (+/-)-N-(4-fluorophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,
- (+/-)-N-(3-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,
- 10 (+/-)-N-(4-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,
- 15 (+/-)-N-(1-adamantylphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1-piperidinecarboxamide,
- 20 (+/-)-N-(3-cyanophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,
- (+/-)-N-(3-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,
- 25 (+/-)-N-(4-carboethoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,
- 30 (+/-)-N-(4-fluorophenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,
- (+/-)-N-(1-adamantylphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,
- 35

(+/-)-N-phenyl-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] methyl]-4-morpholinecarboxamide,

5 (+/-)-N-(3-methoxyphenyl)-2-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-4-morpholinecarboxamide,

(+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-hydroxy-1-piperidinecarboxamide,

10 (+/-)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-hydroxy-1-piperidinecarboxamide,

15 (+/-)-N-(4-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-hydroxy-1-piperidinecarboxamide,

20 (+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-hydroxy-1-piperidinecarboxamide,

(+/-)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] methyl]-3-hydroxy-1-piperidinecarboxamide,

25 (+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-hydroxy-1-piperidinecarboxamide,

30 (+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-phenylmethyl-1-piperidinecarboxamide,

35 (+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-phenylmethyl-1-piperidinecarboxamide,

(+/-)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl] methyl]-3-phenylmethyl-1-piperidinecarboxamide,

5 (+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3-phenylmethyl-1-piperidine-carboxamide,

10 (+/-)-(cis)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidine-carboxamide,

15 (+/-)-(cis)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,

20 (+/-)-(cis)-N-(4-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,

(+/-)-(cis)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidine carboxamide,

25 (+/-)-(cis)-N-phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidine-carboxamide,

30 (+/-)-(cis)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,

35 (+/-)-(trans)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,

- (+/-)-(trans)-N-(3-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- 5 (+/-)-(trans)-N-(4-carboethoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- 10 (+/-)-(trans)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- 15 (+/-)-(trans)-N-phenyl-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- 20 (+/-)-(trans)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- (+/-)-(trans)-N-(3-acetylphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-2-phenylmethyl-1-piperidinecarboxamide,
- 25 (+/-)-N-(3-cyanophenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-3,4-dihydro-2(1H)isoquinolinecarboxamide,
- 30 (+/-)-N-(phenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl] methyl]-3,4-dihydro-2(1H)isoquinolinecarboxamide,
- 35 (+/-)-N-(3-methoxyphenyl)-3-[[4-[(4-fluorophenyl) methyl]-1-piperidinyl]methyl]-3,4-dihydro-2(1H)isoquinolinecarboxamide,

- (+/-)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1,2,3,4-tetrahydro-2-(phenylacetyl)isoquinoline,
- 5 (+/-)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1,2,3,4-tetrahydro-2-(phenylmethylsulfonyl)isoquinoline,
- 10 (+/-)-Phenyl-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3,4-dihydro-2(1H)isoquinolinecarboxylate,
- 15 (+/-)-N-(4-cyanophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3,4-dihydro-2(1H)isoquinolinecarboxamide,
- 20 (+/-)-N-(4-fluorophenyl)-3-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-3,4-dihydro-2(1H)isoquinolinecarboxamide,
- (+/-)-N-(3-cyanophenyl)-3-[2-[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,
- 25 (+/-)-3-[[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-1,2,3,4-tetrahydro-2-(phenylsulfonyl)isoquinoline,
- 30 (+/-)-N-(4-fluorophenyl)-3-[2-[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,
- (+/-)-N-(phenyl)-3-[2-[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,
- 35 (+/-)-3-[[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-1,2,3,4-tetrahydro-2-(2-thiophenesulfonyl)isoquinoline,

(+/-)-3-[[4-[(phenyl)methyl]-1-piperidinyl]ethyl]-  
1,2,3,4- tetrahydro-2-(phenacetyl)isoquinoline,

5 (+/-)-N-(3-methoxyphenyl)-3-[2-[4-[(phenyl)methyl]-1-  
piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-  
carboxamide,

10 (+/-)-N-(phenyl)-3-[2-[4-[(4-fluorophenyl)methyl]-1-  
piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-  
carboxamide,

15 (+/-)-N-(3-methoxyphenyl)-3-[2-[4-[(4-  
fluorophenyl)methyl]-1- piperidinyl]ethyl]-3,4-dihydro-  
2(1H)-isoquinoline- carboxamide,

(+/-)-N-(3-cyanophenyl)-3-[2-[4-[(4-fluorophenyl)methyl]-  
1- piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-  
carboxamide,

20 (+/-)-3-[[4-[(4-fluorophenyl)methyl]-1-  
piperidinyl]ethyl]- 1,2,3,4-tetrahydro-2-  
(phenylmethylsulfonyl)isoquinoline,

25 (+/-)-Phenyl-3-[2-[4-[(4-fluorophenyl)methyl]-1-  
piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-  
carboxylate,

30 (+/-)-N-(3-carboethoxyphenyl)-3-[2-[4-[(phenyl)methyl]-1-  
piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-  
carboxamide,

35 (+/-)-N-(3-carboethoxyphenyl)-3-[2-[4-[(4-fluorophenyl)  
methyl]-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-  
isoquinolinecarboxamide,

(+/-)-N-(3-cyanophenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl] ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,

5 (+/-)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)phenylsulfonyl isoquinoline,

(+/-)-N-(4-fluorophenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl] ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,

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(+/-)-N-(phenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,

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(+/-)-N-(3-methoxyphenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,

20 (+/-)-Phenyl-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxylate,

(+/-)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H) phenacetyl isoquinoline,

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(+/-)-N-(3-cyanophenyl)-4-[2-[4-(4-fluorophenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,

30 (+/-)-4-[2-[4-(4-fluorophenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-[phenyl]sulfonyl isoquinoline,

(+/-)-4-[2-[4-(4-fluorophenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H) [phenacetyl] isoquinoline,

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- (+/-)-4-[2-[4-(4-fluorophenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-[phenylmethyl]sulfonylisoquinoline,
- 5 (+/-)-N-(4-carbethoxyphenyl)-4-[2-[4-(4-fluorophenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinoline-carboxamide,
- 10 (+/-)-N-(4-fluorophenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-3,4-dihydro-2(1H)-isoquinolinecarboxamide,
- 15 (2R)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-4-[(2R)-3,3,3-trifluoro-2-methoxy-2-phenylpropanoyl]morpholine,
- (2R)-N-(3-acetylphenyl)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-4-morpholinecarboxamide,
- 20 (2R)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-N-(3-methoxyphenyl)-4-morpholinecarboxamide,
- (2R)-N-(3-cyanophenyl)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-4-morpholinecarboxamide,
- 25 (2R)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-N-(4-fluorophenyl)-4-morpholinecarboxamide,
- (2R)-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-N-phenyl-4-morpholinecarboxamide,
- 30 (2R)-N-(3-cyanophenyl)-2-{[(3S)-3-(4-fluorobenzyl)piperidinyl]methyl}-4-morpholinecarboxamide,
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- (2*R*)-*N*-(3-acetylphenyl)-2-{[(3*S*)-3-(4-fluorobenzyl)piperidinyl]methyl}-4-morpholinecarboxamide,
- 5 (2*R*)-*N*-(3-acetylphenyl)-2-{[(3*S*)-3-(4-fluorobenzyl)piperidinyl]methyl}-*N*-phenyl-4-morpholinecarboxamide,
- 10 3-{[3-(4-fluorobenzyl)-1-pyrrolidinyl]methyl}-*N*-phenyl-1-piperidinecarboxamide,
- N*-(3-cyanophenyl)-3-{[3-(4-fluorobenzyl)-1-pyrrolidinyl]methyl}-1-piperidinecarboxamide,
- 15 *N*-(3-acetylphenyl)-3-{[3-(4-fluorobenzyl)-1-pyrrolidinyl]methyl}-1-piperidinecarboxamide,
- 20 3-{[(3*S*)-3-(4-fluorobenzyl)piperidinyl]methyl}-*N*-phenyl-1-piperidinecarboxamide,
- N*-(3-cyanophenyl)-3-{[(3*S*)-3-(4-fluorobenzyl)piperidinyl]methyl}-1-piperidinecarboxamide,
- 25 *N*-(3-acetylphenyl)-3-{[(3*S*)-3-(4-fluorobenzyl)piperidinyl]methyl}-1-piperidinecarboxamide,
- 30 *tert*-butyl 4-[(3-cyanoanilino)carbonyl]-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxylate,
- 35 *N*-(3-cyanophenyl)-3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxamide dihydrochloride,
- 4-benzyl-*N*-(3-cyanophenyl)-3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxamide,

4-acetyl-*N*-(3-acetylphenyl)-3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxamide,

5    *tert*-butyl 4-[(anilino)carbonyl]-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxylate,

10    *tert*-butyl 4-[(3-methoxyanilino)carbonyl]-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxylate,

15    *tert*-butyl 4-[(3-acetylanilino)carbonyl]-2-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxylate,

3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}- *N*-phenyl-1-piperazinecarboxamide dihydrochloride,

20    3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}- *N*-(3-methoxyphenyl)-1-piperazinecarboxamide dihydrochloride,

25    *N*-(3-acetylphenyl)-3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxamide dihydrochloride, and

4-benzyl-*N*-(3-cyanophenyl)-3-{[4-(4-fluorobenzyl)-1-piperidinyl]methyl}-1-piperazinecarboxamide.

30        41. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a therapeutically effective amount of a compound according to Claim 1.

35        42. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a therapeutically effective amount of a compound according to Claim 11.

43. A method for modulation of chemokine receptor activity comprising administering to a patient in need thereof a therapeutically effective amount of a compound according to Claim 1.

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44. The method according to Claim 43, wherein  $R^9$ ,  $R^{9'}$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{11'}$  and  $R^{12}$  of the compound according to Claim 1 are H.

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45. The method according to Claim 44, wherein modulation comprises contacting a CCR3 receptor with an effective inhibitory amount of the compound.

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46. A method for treating or preventing inflammatory disorders comprising administering to a patient in need thereof a therapeutically effective amount of a compound according to Claim 1.

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47. The method according to Claim 46, wherein  $R^9$ ,  $R^{9'}$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{11'}$  and  $R^{12}$  of the compound according to Claim 1 are H.

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48. The method according to Claim 46, wherein the disorder is selected from asthma, allergic rhinitis, atopic dermatitis, inflammatory bowel diseases, idiopathic pulmonary fibrosis, bullous pemphigoid, helminthic parasitic infections, allergic colitis, eczema, conjunctivitis, transplantation, familial eosinophilia, eosinophilic cellulitis, eosinophilic pneumonias, eosinophilic fasciitis, eosinophilic gastroenteritis, drug induced eosinophilia, HIV infection, cystic fibrosis, Churg-Strauss syndrome, lymphoma, Hodgkin's disease, and colonic carcinoma.

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49. The method according to Claim 48, wherein the disorder is selected from asthma, allergic rhinitis, atopic dermatitis, and inflammatory bowel diseases.

50. The method according to Claim 49, wherein the disorder is asthma.